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ABSTRACT

A study was conducted in two desegregated high schools in order to test Sherif's theory that intergroup conflict can be eliminated when the groups strive for superordinate goals. The specific question examined in the study was: To what extent do members of an ethnic group enlarge their conception of their own in-group to include members of another ethnic group (out-group) after having had contact with the out-group members in work teams that are striving for superordinate goals? It was posited that if an in-group enlarged its self concept to include members of the out-group, then greater integration would have been achieved, supporting Sherif's theory. In one of the high schools, the classroom grouping procedures and reward structure were changed. Students of different ethnic groups (Mexican American and white) were required to interact in a cooperatively interdependent manner to achieve superordinate goals. The other high school served as a comparison group. Students in both schools were tested at the beginning and end of the school year. A comparison of change scores in the two schools did not support Sherif's theory. (Author/CC)

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SCHOOL DESEGREGATION AS A TEST OF SUPERORDINATE GOALS

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SCHOOL DESEGREGATION AS A TEST OF SUPERORDINATE GOALS

School desegregation, physical mixing, merely provides the opportunity for contact between members of various ethnic groups. This contact may or may not lead to integration, social association. Reviews of the literature on school desegregation show that "studies of the effect of contact on the formation of friendship and the reduction of prejudice are somewhat inconclusive (St. John, 1964: 328)." "Some have found that, with contact, there is more interracial acceptance, less prejudice, and a raising of Negro self-esteem. Other studies have not supported these findings, noting instead that there is less interracial acceptance (Carithers, 1970: 36)."

It has been suggested that the reason for the different findings is because the contact situations differ in type and structure (Williams, 1964; Amir, 1969). Those studies which report no difference or less inter-ethnic acceptance are usually studies of situations which merely provided the opportunity for contact between different ethnic groups without a concrete plan for the reduction of inter-ethnic tensions through contact. One such concrete plan for the reduction of inter-ethnic tensions was introduced by Muzafer Sherif (1961) who demonstrated that intergroup conflict can virtually be eliminated when the groups strive for superordinate goals, situations of cooperative interdependence.

School desegregation provides the opportunity for a marriage of social science theory and policy application. Sherif's theory of superordinate goals can be applied as a policy to move a school from desegregation to integration and the implementation of that policy can serve as a test of Sherif's theory.

Unfortunately, as Coleman (1959) has shown, the present classroom reward structure works against cooperative interaction. In fact, it actively promotes competitive distance which is detrimental to the reduction of inter-ethnic hostility. Therefore, it is hypothesized that the school normative system should be changed in order to promote integration through cooperative interdependence by changing classroom grouping procedures and the classroom reward structure.

If students in classes compete as individuals for grades, then members of different ethnic groups may not interact with each other. At least it is not to the advantage of an individual member of one ethnic group to interact with an individual member of another ethnic group. Arranging students in work teams within the classroom, with each team containing members of the different ethnic groups, greatly increases the probability for interaction between members of different ethnic groups.

If grades or other rewards are dispensed within the classroom on an individual basis, then it is probable that the interaction within the work teams will be competitive. However, if grades or other rewards are dispensed within the classroom based upon the accomplishments of the work teams as a whole, then it becomes functional for the members of those work teams to cooperate internally.

Social science research indicates that the "most intragroup Likeability and the most Positivity of behavior" can be achieved when rewards are distributed within the work teams, after having been distributed between them, based upon member contributions to the accomplishment of the team's goals (Samuels, 1970: 395). Proportional distribution of rewards within the

work team based upon member contributions prevents resentment of the low achievers by the higher achievers and lessens the guilt feelings of the less academically proficient for receiving more reward than they earned.

The major question to be addressed by this study is: To what extent do members of an ethnic group who initially consider their group as an in-group and members of another ethnic group as an out-group enlarge their conception of the in-group to include members of the other ethnic group, after having had contact with the out-group members in work teams which are intra- and inter-competitively striving for superordinate goals?

A group will be defined as having enlarged its conception of itself when the individual members of that group

1) report more positive perceptions of the out-group in general;
2) report increased behavioral associations with members of the out-group; and
3) report attitude changes which are more favorable toward interaction of in-group and out-group members.

It is posited that if an in-group (ethnic group) enlarges its conception of itself to include members of the out-group (other ethnic group) as measured above, then greater integration will have been achieved and empirical confirmation of Sherif's theory will have been provided.

METHODOLOGY

Originally, the hypotheses were to be tested on a sample which was to consist of all ninth grade students at two high schools. One school was to serve as an experimental group and the other high school was to serve as an

experimental group and the other high school was to serve as a comparison group. A program called Care and Share which basically meets the criteria for a successful contact situation as outlined in the previous section was in operation in the high school chosen as the experimental group.

Under this program students work together in groups of approximately five students to master the subject matter but they are tested individually, intra-competitive grouping. A group score is obtained by averaging the individual scores of group members. Groups are then ranked according to the average group scored, inter-competitive grouping. Students are asked to select new group partners at the end of a three-week period and they are then reassigned to new groups for the next unit of class work.

The comparison high school was a similar high school in the same district which did not have the program.

This study uses a Quasi-Experimental Design which Campbell and Stanley (1963) call the Nonequivalent Control Group Design.

SAMPLE

According to the official school district records, the experimental high school consisted of 218 Anglo, light skinned Americans whose dominant language is English, and 154 Mexican-American, Spanish-surnamed Americans whose cultural heritage is from Mexico, ninth graders. The figures for the comparison high school were 365 and 71, respectively.

A questionnaire was administered to all ninth graders in the two high schools on the following dates:

High School	Pretest	Post-test
Experimental	November 6, 1973	April 30, 1974
Comparison	December 4, 1973	April 29, 1974

A student was placed in the usable sample if usable data had been obtained on that student at the two points in time.

The usable sample consisted of 95 Anglo and 66 Mexican-American ninth graders at the experimental high school and 186 Anglo and 35 Mexican-American ninth graders at the comparison high school. There is a discrepancy between the number of students in the usable sample and the figures given by the school district personnel because all students were not present on the days the questionnaires were administered and some questionnaires were completed without an adequate understanding of the instructions or in a capricious manner and had to be discarded.

MEASUREMENT INSTRUMENTS

Three variables or scales are used as dependent variables. Those variables are Student Perception of Anglo (Mexican-American) Student - Total Perception, Anglo (Mexican-American) Associates, and Attitude toward Integration.

The Perception variable is an average of the following five measures of Student Perception of Anglo (Mexican-American) Students: Friendly to Other Groups, Friendliness to Respondent, Aggressiveness, Academic Competence, and Liked by Teachers.

For Friendly to Other Groups, students rated how friendly the Anglo (Mexican-American) students are toward the non-Anglo (non-Mexican-American) students in their school. For example, students were asked the following about Anglo students: How many are friendly to Black (Mexican-American, Asian-American, and Indian) students? Response categories were All, Most, About Half, A Few, and NOne. The Friendly to Other Groups scale consists of four questions.

The second measure which is part of the Perception variable is the Friendliness to Respondent scale. Students rated, using the same response categories mentioned above, how many of their Anglo (Mexican-American) classmates are personally friendly to them, how many they like, and how many are easy to get along with.

In the same manner, students rated how many of their Anglo (Mexican-American) classmates get into trouble in school, are loud and rough, push other students around, and start fights. This measure of Aggressiveness is the third part of the Perception variable.

For Academic Competence, the fourth scale in the Perception measure, students rated how many of their Anglo (Mexican-American) classmates get good grades, study hard, and are smart in classwork. The response categories to those three questions were All, Most, About Half, A Few, and None.

In order to measure Liked by Teachers, students rated how many of their Anglo (Mexican-American) classmates are well liked are are treated fairly by the teachers in their school, using the same response categories as before.

Therefore, a high score on the Perception variable means that Anglo (Mexican-American) students are generally perceived favorably --- that is, they are seen as being friendly, not too aggressive, competent and well liked by teachers.

For the Associates variable, each respondent estimated; using the categories All, Most, About Half, A Few, and None; how many of his school associates are Anglo (Mexican-American). "Associates" means the other

students with whom the respondent eats lunch, hangs around after school, and goes to ballgames and other school activities. A high score means many associates.

The Integration Attitude scale measures the extent to which students are favorable to the idea of ethnic integration in their school. Students responded to four statements concerning the wisdom of mixing different racial groups in school, at dances and parties, of objecting to making friends with students of other races, and of supporting your own race over trying to get along with other races. To those statements the students could Strongly Agree, Agree, Disagree, or Strongly Disagree. A high score means that students favor ethnic mixing in the schools and at parties and dances.

The amount of contact with members of the other ethnic group while participating in the Care and Share program is the independent variable in this study. Participation in the Care and Share program did not guarantee that a student would have members of the other ethnic group in any of his work teams. Students did not all have the same amount of contact with members of the other ethnic group.

Contact is the total number of other ethnic group members who were in the same work teams in academic subject areas for Care and Share as was the subject. Another ethnic group member could be counted more than once, if he was in the same work group as the subject for two or more different classes or for two or more different grouping arrangements.

RESULTS OF HYPOTHESIS TESTING

RESULTS USING ANALYSIS OF VARIANCE

Hypothesis I - Positive Perceptions of the Out-Group

After exposure to the treatment, will the in-group report more positive perceptions of the out-group? Table 1 presents the results for Anglo students and Table 2 for Mexican-American youngsters.

In Table 1 the dependent variable is the Total Perception of Mexican-Americans by Anglos. The independent variable is the treatment as expressed by the combination of school and time. The results are presented by sex.

Insert Table 1 about here

At time 1 ($F = 8.07$, $p < 0.005$) and at time 2 ($F = 7.91$, $p < 0.006$) the experimental group of Anglos has more positive perceptions of Mexican-Americans than does the comparison group of Anglos. However, the table shows that the treatment does not increase their positive perceptions of Mexican-Americans. Without regard to sex, both experimental and comparison groups report a slight statistically insignificant decrease (-0.02) in their perceptions of Mexican-Americans. Thus, the treatment did not promote a positive change in perceptions of the out-group by the in-group.

Table 2 uses the same independent variable, but the dependent variable is the Total Perception of Anglos by Mexican-Americans.

Insert Table 2 about here

At time 1 the two groups do not differ significantly in their perceptions of Anglo students ($F = 0.09$, $p _ 0.762$). Although there is some positive movement by the experimental group and some negative movement by the comparison group, at time 2 the groups still do not differ significantly ($F = 0.50$, $p _ 0.512$). Therefore, the table indicates that the magnitude of the change is not statistically significant. The movement does not differ from random fluctuation and thus the null hypothesis is sustained.

It must be concluded that the treatment does not promote more positive perceptions of the out-group by the in-group. The empirical data show no change in perceptions of any statistical significance.

Hypothesis II - Behavioral Associations with the Out-Group

Will an in-group, after exposure to the treatment, report more behavioral associations with an out-group than an in-group not so exposed? Table 3 presents data for Anglos and Table 4 for Mexican-Americans.

Anglos do not report an increase in Mexican-American associates after exposure to the treatment. In fact, as Table 3 shows, they report a decrease in the number of their associates who are Mexican-American. The decrease that the experimental group of Anglos report is equal in magnitude to the decrease reported by the comparison group of Anglos (-0.14). Exposure to the treatment not only fails to increase the behavioral associations of the in-group of Anglos with the out-group of Mexican-Americans; it does not even slow the rate of decrease. However, while the

experimental Anglos do not increase their associates who are Mexican-American, they do report having significantly more such associates than the comparison group at both time 1 ($F = 17.98$, $p < 0.000$) and at time 2 ($F = 21.10$, $p < 0.000$).

Insert Table 3 about here

In Table 4, the interaction term for Mexican-Americans between time and treatment group comes closer to statistical significance ($p < 0.208$) than in any prior table. However, it is the comparison group which reports an increase in Anglo associates, while the experimental group shows a decrease, but such changes could be due to chance variation. Although at time 1 there is no statistically significant difference ($F = 3.17$, p 0.075) between the two groups on the Anglo Associates measure, at time two the two groups are significantly different ($F = 6.81$, $p < 0.010$) on that measure but it is the comparison school that is significantly higher.

Insert Table 4 about here

Once again, it must be concluded that, using analysis of variance procedures, the treatment does not produce the results hypothesized. It does not increase behavioral associations between the in-group and the out-group.

Hypothesis III - Integration Attitude toward the Out-Group

Table 5 presents the results of testing the hypothesis concerning the influence of the treatment on the willingness of the in-group members to

interact (integrate) with out-group members. The dependent variable is Attitude toward Integration. The independent variable is the treatment expressed as a combination of school and time. The results are shown broken down by sex and ethnic group.

Insert Table 5 About here

The F ratio for the interaction term between school and time (the effect of the treatment) without regard to sex and ethnicity is 1.95 ($p. - 0.160$). If one chooses the .05 level as the cut-off point for significance, the treatment does not have an effect upon attitude toward integration. However, the F ratio is the highest obtained so far and it can be argued that the social significance of that F ratio is more important than the rigid application of an agreed upon, but arbitrary, statistical standard.

This "effect" of the treatment does not manifest itself in the hypothesized manner. The treatment, for the experimental group as a whole, increases willingness to interact only very slightly (0.01). Instead the treatment appears to prevent the deterioration of this willingness to interact, because the comparison group shows a decrease on the Attitude toward Integration variable of -0.08.

Since there is no statistically significant difference between the decline of 0.11 on the Attitude toward Integration variable for Mexican-Americans in the comparison group and the increase of 0.03 for the Mexican-Americans in the experimental group, the treatment does not have a greater effect on one ethnic group - treatment combination than on another.

The F ratio for the interaction term of sex by school over time is 1.45 ($p < 0.227$). Thus, the treatment does not have a greater effect on one sex than on the other. There is a difference of 0.19 between the movement of females in the comparison group and females in the experimental group. There is practically no difference in the rate of decrease for males on the Attitude toward Integration variable: comparison males = -0.05, experimental males = -0.04. Even though the data are not statistically significant and the movement could be merely random, it is the females who are exposed to the treatment who move in the positive direction, while the other three groups, experimental males and comparison males and females, move in the negative direction.

The interaction term for treatment group over time by ethnic group by sex is not statistically significant.

Statistically the data do not support the third hypothesis. The experimental group females are the only ones who show an increase on the Attitude toward Integration variable. The other groups all show decreases. However, these changes may be due to random variation.

RESULTS USING CORRELATIONAL ANALYSIS

Table 6 presents the results of the correlational analysis of data. For the correlational analysis the sample used was the experimental group only, since they were the only ones exposed to the treatment. The independent variable is the number of other ethnic group members who were in the same work groups as the subject, Contact. The three dependent variables are all change variables, time 2 value minus time 1 value. For example, the intersection of the first row and first column in the

table shows the value of the correlation between the number of Mexican-Americans who were in the same work groups as the subject and the difference between the subject's Total Perception of Mexican-Americans at time 2 minus the subject's score on that same variable at time 1, for Anglo males in the experimental group.

Insert Table 6 about here

Hypothesis I - Positive Perceptions of the Out-Group

For Anglo students, using correlational analysis, the findings concerning Perception are basically the same as when analysis of variance was used. The treatment does not appreciably affect the perceptions of Mexican-American students by Anglos for either males or females, $r = .08$ and $.07$ respectively. Both correlations are in the direction of the hypothesis, but the coefficients are not statistically significant in magnitude.

The treatment does seem to have an effect on the way in which Mexican-Americans perceive the Anglo students. For Mexican-American males, the correlation between amount of exposure to out-group members and changes in perceptions of that out-group is .27 ($p < .05$). For Mexican-American females the correlation between those same two variables is -.35 ($p < .05$). What is most interesting is that for males the effect is in the direction hypothesized, but for females the effect is in the opposite direction.

The empirical test supports the hypothesis in one instance (Mexican-American males), fails to support it in two cases (Anglo males and females), and supports the opposite of the hypothesis in another (Mexican-American females).

Hypothesis II - Behavioral Associations with the Out-Group

Once again using correlational analysis does not change the results of the analysis of variance. None of the four correlations are statistically significant.

The treatment has practically no effect for both Anglo and Mexican-American females. The correlations are in the direction hypothesized but are very small in magnitude; for Anglo females, r = .01; for Mexican-American females, r = .08.

For males the correlations are in the opposite direction of the hypothesis and the magnitudes are greater than they are for females. The correlation coefficient for Anglo males is -.12 and for Mexican-American males the correlation coefficient is -.19. The magnitudes of the correlations are not statistically significant.

Thus, the second hypothesis finds no more empirical support using correlational analysis than when analysis of variance was used.

Hypothesis III - Integration Attitude toward the Out-Group

For the third hypothesis, the results using correlational analysis differ from those using analysis of variance.

The main finding using analysis of variance was that females, both Anglo and Mexican-American, increased their willingness to interact, but that increase was not statistically significant. Using correlational

analysis,this is not the case. The correlation coefficient for Anglo females is -.06 and for Mexican-American females , it is -.03. Neither of these coefficients is statistically significant, but their direction is the opposite of that found using analysis of variance and of that predicted by the hypothesis.

Mexican-American males have a correlation coefficient of -.06 which is roughly of the same magnitude and direction as that found using analysis of variance. It, too, is not in the direction hypothesized nor is it statistically significant. The correlation coefficient for Anglo males is .33 ($p < .05$) which supports the hypothesis.

For the third hypothesis, correlational analysis results show that the hypothesis is supported for Anglo males, but not for Mexican-American males or females of either ethnic group.

The differences in results using the two different methods of data analysis show the advantage of using more than one method of data analysis. The overall lack of statistical significance using either method shows that the null hypothesis of no difference cannot be rejected and obtained results are random and should be interpreted as such.

SUMMARY AND DISCUSSION

Does the Care and Share program move the school from desegregation to integration? Is the theoretical framework supported by empirical data?

Using analysis of variance the answer to both of those questions is no. The treatment does not significantly increase positive perceptions of the out-group by the in-group. It does not increase the behavioral

associations of the in-group members with out-group members. It does not significantly change attitudes toward integration in a more favorable direction.

The only support for the program can be found on the Attitude toward Integration variable. On that measure the experimental group reports an increase in positive attitudes which borders on statistical significance when compared to the comparison group and which could be considered socially significant. However, the use of correlational analysis calls even the social significance of this finding into question.

When using correlational analysis, only three of the twelve coefficients are of a magnitude that differs from chance at the .05 level of significance and one of those three is not in the direction hypothesized. The correlations for Mexican-American males and females on the Perception variable are statistically significant as is the correlation for Anglo males on the Attitude toward Integration variable. This means that the treatment does not show the hypothesized effect for Anglos on the Perception variable, for either ethnic group on the Associates measure, and for Mexican-Americans and Anglo females on the Attitude toward Integration variable.

The correlation for Mexican-American females on the Perception variable is statistically significant but negative in direction. The more contact Mexican-American females have with Anglos in the same work teams, the more their over-all perceptions of Anglos change in the negative direction.

The use of correlational analysis produces only two instances in which the answers are yes to the questions asked at the beginning of this section, for Anglo males on the Attitude toward Integration variable and for Mexican-American males on the Perception measure.

Although the results using the two methods of analysis are basically the same there are some differences. These differences are probably due to random fluctuation, differences in the operationalization of the independent variable, and differences in the sample used in the analysis.

Rather than discussing differences between the two methodological techniques, it is more important to discuss the differential effects of the treatment on subsections of the sample who were affected negatively by the treatment.

Table 4 shows that between time 1 and time 2, the experimental group of Mexican-Americans report a decrease in their mean number of associates who are Anglo, while the comparison group reports an increase. This result is in direct contradiction to the hypothesis. The experimental group was expected to report the increase and the comparison group was expected to report the decrease.

At time 1, the mean score on the Associates variable for the experimental Mexican-Americans is 2.16; for the comparison Mexican-Americans it is 2.65. Even at the start, the comparison group reports more associates who are Anglo, This situation is understandable because in the experimental school there were 218 Anglo ninth graders to 154 Mexican-Americans, but in the comparison school there were only 71 Mexican-Americans to 365 Anglos in the ninth grade. On a purely random basis a Mexican-American in the experimental school had 59 chances out of 100 of associating with an Anglo student, but in the comparison school, a

Mexican-American had 84 chances out of 100 of associating with an Anglo. It is posited that Anglo associates among the comparison group would have declined also if the ethnic ratio in the comparison school had been more like the ethnic ratio in the experimental school.

The use of correlational analysis shows another subsection of the sample who appear to be negatively affected by the treatment. Mexican-American females in the experimental group report a correlation of -.35 between the amount of exposure to the treatment and the Perception variable. The more Mexican-American females associate with Anglos in work teams, the more negative their perceptions of Anglos become. The opposite relationship exists for Mexican-American males ($r = .27$, $p < .05$) and to a lesser degree for Anglo females ($r = .07$, $p = NS$). This negative relationship is unique to Mexican-American females; it does not exist for Mexican-Americans in general or for females in general. Clearly this cannot be explained by the hypothesis, since the hypothesis predicted a positive correlation of significant magnitude.

However, other studies have also found this same relationship for minority group females, increased contact leads to more negative perceptions of the out-group. For example, Yarrow, Campbell, and Yarrow (1958) report that "desegregation holds the greatest initial hazards for Negro girls." St. John (1975) agrees, when she reports that "among blacks the social threat of desegregation is almost universally reported to be greater for girls than boys." The reaction to this social threat has been predictable. Gottlieb and TenHouten (1965) and Silverman and Shaw (1973) both report that black females respond by exhibiting a

greater ethnic self-preference than males and more negative attitudes toward Anglos and desegregation in general than do males.

St. John's (1975) explanation for why black females feel the most social threat is due to white standards of beauty. Black males can adapt to the social system of the desegregated high school through their athletic skills. However, for females, both black and white, adaptation and acceptance into the social system is much more dependent upon personal appearance (Coleman, 1961). Since American standards of female beauty are in reality white standards, black females do not conform to those standards. Therefore, they are not accepted into the social system of the high school as are black males.

The same things may be happening to the Mexican-American females in this study that were happening to black females in other studies. Also, it does not seem to be totally because of the treatment, since a second look at Table 2 reveals that the comparison group of Mexican-American females report a more negative change in perceptions of Anglos than the experimental group of Mexican-American females. The information from other studies and the findings reported in Table 2 lead one to believe that it is not the treatment which produces more negative perceptions directly, but rather that the treatment fails to overcome the negative consequences of increased contact.

It has been found that under conditions of competition increased contact leads to increased antagonism (Kramer, 1950; Winder, 1952). The treatment was designed to reduce academic competition. What it apparently did not reduce was competition in the social life of the school. In

fact, it may very well have increased competition in that area by placing Mexican-American males and Anglo females in closer proximity to each other than would have normally been the case. It is posited that the increased competition for males and the status differentials of the females worked to the detriment of the Mexican-American females.

If the conditions outlined above as to the effect that the treatment had on the social dynamics of the school are accurate, then the negative correlation for Mexican-American females on the Perception measure is as understandable as the positive correlation for Mexican-American males on that same variable.

The theory being tested concerns the achievement of superordinate goals through cooperative interdependence (McClendon and Eitzen, 1975). Unfortunately, what was tested was the attempted achievement of superordinate goals. In Sherif's (1961) experiment, the superordinate goals were actually achieved by the groups. What happens when groups cooperatively strive to achieve superordinate goals but fail? Do non-proficient members of a group which fails to achieve its goal get blamed for goal blockage?

According to Myers (1962), the answer is no. Myers' study was a test of competition and non-competition under conditions of success and failure with teams of only one ethnic group. If the group members had had generalized expectations for each other prior to the experiment or if there were generalized hostility and differential perceptions of members, would Myers have obtained different results? Minority group members have long served as scapegoats for majority group problems. Therefore, it is

possible that minority group members were blamed by majority group members for the failure of a work team to be number one.

Other reasons why the hypothesized results may not have been obtained are that an adequate amount of time did not elapse so that the treatment did not have enough time to be effective and the lack of an adequate pretest as called for in the research design made the test of the theory overly conservative. First, six months of the treatment may not have been an adequate amount of time to overcome 15 years of socialization and other societal influences that work against integration. Second, the time of the initial data collection provided a false pretest which may have biased the results against the theory. Attitude and behavior changes which may have occurred immediately upon exposure to the treatment or exposure to school social system norms created by the treatment in prior years were not recorded.

It is suggested that the experiment be repeated with three revisions. First, an adequate pretest should be obtained. Time 1 data should be collected on the subjects either prior to their entry into the school or immediately upon their entry. Second, the time span should be lengthened to four years, ninth grade to twelfth grade. Lastly, a measure of contact with the other ethnic group in work teams that achieve their goals should be developed

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Table 1

Mean Total Perception of Mexican-Americans[1] by Anglos by Sex by School over Time

	Experimental Anglo			Comparison Anglo		
	Male	Female	Comb.	Male	Female	Comb.
N	34	57	91	76	88	164
Time 1	2.94	3.12	3.03	2.83	2.93	2.88
Time 2	2.88	3.13	3.01	2.78	2.94	2.86

Three Way ANOVA	F ratio	Probability
Interaction Term Treatment Group over Time	0.00	<0.975
Treatment Group over Time by Sex	0.00	<0.950

[1] Higher scores on this variable mean more positive perceptions.

Table 2

Mean Total Perception of Anglos[1] by Mexican-Americans by Sex by School over Time

	Experimental Mexican-American			Comparison Mexican-American		
	Male	Female	Comb.	Male	Female	Comb.
N	33	30	63	18	14	32
Time 1	3.13	3.22	3.17	3.09	3.20	3.14
Time 2	3.21	3.18	3.19	3.15	3.11	3.13

Three Way ANOVA	F ratio	Probability
Interaction Term		
Treatment Group over Time	0.11	<0.736
Treatment Group over Time by Sex	0.03	<0.860

[1]Higher scores on this variable mean more positive perceptions.

Table 3

Mean Mexican-American Associates[1] of Anglos by Sex by School over Time

	Experimental Anglo			Comparison Anglo		
	Male	Female	Comb.	Male	Female	Comb.
N	36	54	90	73	100	173
Time 1	2.09	2.02	2.06	1.70	1.70	1.70
Time 2	1.97	1.86	1.92	1.57	1.55	1.56

Three Way ANOVA	F ratio	Probability
Interaction Term Treatment Group over Time	0.00	<0.961
Treatment Group over Time by Sex	0.02	<0.889

[1]Higher scores on this variable mean more associates.

Table 4

Mean Anglo Associates[1] of Mexican-Americans by Sex by School over Time

	Experimental Mexican-American			Comparison Mexican-American		
	Male	Female	Comb.	Male	Female	Comb.
N	30	32	62	10	16	26
Time 1	2.39	1.94	2.16	2.65	2.65	2.65
Time 2	2.27	1.78	2.02	2.83	2.73	2.78

Three Way ANOVA	F ratio	Probability
Interaction Term Treatment Group over Time	1.59	<0.208
Treatment Group over Time by Sex	0.02	<0.875

[1] Higher scores on this variable mean more associates.

Table 5

Mean Attitude Toward Integration[1] by Ethnic Group by Sex by School over Time

	Anglos			Mexican-Americans			Males Comb. w/o Ethnic	Females Comb. w/o Ethnic	Students Comb. w/o Ethnic or Sex
	Male	Female	Comb.	Male	Female	Comb.			
Experimental Group									
N	35	57	92	34	32	66	69	89	158
Time 1	3.05	3.25	3.15	2.98	3.04	3.01	3.02	3.14	3.08
Time 2	3.02	3.29	3.15	2.95	3.13	3.04	2.98	3.21	3.09
Comparison Group									
N	77	103	180	17	15	32	94	118	212
Time 1	2.93	3.27	3.10	2.78	3.19	2.99	2.86	3.23	3.04
Time 2	2.86	3.23	3.04	2.75	3.00	2.88	2.81	3.11	2.96

Table 5 - Continued

Four Way ANOVA	F ratio	Probability
Interaction Term		
Treatment Group over Time	1.95	<0.160
Treatment Group over Time by Ethnic Group	0.38	<0.544
Treatment Group over Time by Sex	1.45	<0.227
Treatment Group over Time by Ethnic Group by Sex	0.71	<0.596

[1]Higher scores on this variable mean a more favorable attitude toward integration.

Table 6

Linear Correlation Coefficients between Contact with Other Ethnic Group and Perception, Associates, and Integration Attitude by Ethnic Group and Sex for Students in the Experimental School

Independent Variable: Contact with Other Ethnic Group in Work Teams

Dependent Variables	Anglo Male (N=40)	Anglo Female (N=60)	Mex-Am Male (N=37)	Mex-Am Female (N=32)
Perception	.08	.07	.27*	-.35*
Associates	-.12	.01	-.19	.08
Integration Attitude	.33*	-.06	-.06	-.03

* = significant beyond the .05 level